SIMPLEX®

HYDRAULIC & MECHANICAL POWER

PET & PAT SERIES

TORQUE WRENCH SERIES
ELECTRIC & AIR POWER PUMPS

SERVING INDUSTRY WITH PRIDE
SIMPLEX
SINCE - 1899
Templeton Kenly & Co., Inc.
QUALITY

Operating & Maintenance Instructions
For 1/2 and 1 1/2 H.P. Power Pumps

EQUIPMENT SERVICE ASSOCIATION
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REBUILDERS OF TOOLS & EQUIPMENT
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Part Sheet #:
Revised:

The world's most complete line of industrial, hydraulic and mechanical lifting and positioning equipment.

SIMPLEX DIVISION OF TEMPLETON, KENLY & CO., INC.
2525 Gardner Road Broadview, Illinois 60155 (708) 865-1500 / Fax (708) 865-0894
www.tksimplex.com

OPERATING INSTRUCTIONS AT A GLANCE

Before operating Pump:

1. Be sure the electrical connection is grounded. Check that your power supply agrees with the motor nameplate.

2. Use only torque wrench, hoses and equipment rated at 10,000 PSI.

3. Make sure all hose and fitting connections are tight and secure. Hoses cannot be kinked or twisted.

4. Oil level should be 1 to 2" from the reservoir plate.

5. Lossen lock nut and back out relief valve to prevent unintended pressure build-up.

6. Never operate the pump with the directional control valve in advance or retract at 10,000 PSI without wrench movement for more than 1 minute. Leaving the valve in the advance or retract position with out the wrench moving will overheat the oil.

After Completing the job:

1. Before disconnecting hoses, fitting, etc., first be sure the wrench is retracted and unloaded, than unplug the power cord.

2. Store the pump in a clean, dry area.

Periodic Maintenance :

1. Completely change the hydraulic oil and clean the oil filter screen and magnet [located in the reservoir] twice a year. [Use SIMPLEX oil only, Model # AO1, 1 gallon]. Change the oil more frequently when used in extremely dusty areas or when the oil has been overheated. Using oil other than SIMPLEX brand voids the pump warranty.

SAFETY

Working Pressure:

The pump's maximum working pressure is 10,000 PSI [700 kg/cm]. Make sure that all hydraulic equipment such as wrench, hoses, etc. used with this pump are rated at 10,000 PSI operating pressure.

Hydraulic Connections:

Never disconnect or connect any hydraulic hoses or fitting without first unloading the wrench, than unplug the electrical cord of the pump. Double check the gauge to assure pressure has been released.

When making connections with quick disconnect couplings, make sure the couplings are fully engaged. Threaded connections such as fittings, gauges, etc. must be securely tightened and leak free.

!! CAUTION !! Loose or improperly threaded fittings can be potentially dangerous if pressurized, however, severe over tightening can cause premature thread failure. Fittings need to be tightened secure & leak free. Never hold or stand directly in line with any hydraulic connections while pressurizing. Never grab, touch or in any way come in contact with a hydraulic pressure leak. Escaping oil can penetrate the skin and a serious injury can result.

Do not subject the hose to potential hazard such as sharp surfaces, extreme heat or heavy impact. Do not allow the hose to kink & twist. Inspect each hose for wear before it is used.

Electrical Power:

1. Check for proper electrical supply before connecting.

2. This motor may spark. Do not operate in an explosive atmosphere or in the presence of conductive liquids.
    a. Do not use a power or extension cord that is damaged or has exposed wiring.
    b. All single phase motor come equipped with a three prong grounding type plug to fit the proper grounded type electrical outlet. Do not use a two prong ungrounded extension cord as the pump's motor must be grounded.

Jacking Safely

You must know the weight of what you intend to lift and choose a ram with at least 10% more capacity.

The ram should be placed on a solid foundation so that the base of the ram is fully supported. The load must be centered on the ram, or equally distributed on multiple rams. Off center loading can result in the ram slipping out and loss of the load.

Never crawl or place any part of your body under any load at any time. Insert blocking or crib being under the load as you lift. Hydraulic rams are meant for lifting only and should not be used to support the load for any period of time.

You should obtain and be familiar with the American National Standards Institute rules that apply to hydraulic rams and jacks (ANSI B30.1).

INSTRUCTIONS BEFORE USE

Read carefully. Most malfunctions in new equipment are the result of improper operation and/or improper setup assembly.

Preparation: Remove pump from shipping container -- but do not remove any plugs or valves until the unit is ready to be fully assembled to prevent dirt or foreign matter from contaminating system.

Inspection: Visually inspect all components for shipping damage. If any damage is found, notify carrier immediately.

Electrical Connections:

Compare motor nameplate against power availability to prevent motor burnout or dangerous electrical overloading.

Minimize the length of extension cords and be sure they are of adequate wire size, with grounded connections.

Hydraulic Connections:

Check hydraulic oil level to prevent possible pump burnout. Open the red plastic fill plug located on the reservoir plate. Oil level should be approximately 2" from top of reservoir plate -- with cylinders retracted and motor off. Add SIMPLEX oil as necessary. Do not mix different grade of oil.

Loosen lock nut and back out (turn counter-clockwise) relief valve to prevent unintended pressure buildup.

Make sure all desired gauge, hose and quick coupler connections are tight and secure before operating. The pumps pressure ports are located just below the control valve.

Hose Connection:

Couple hoses to pump outlet manifold. "A" port is for advancing and "B" port is for retracting the piston in the torque wrench. Pump are supplied with the specified coupling halves already connected to the pump ports to prevent incorrect coupling of hoses to wrench.

Couple hoses to torque wrench. When using SIMPLEX pump and torque wrench combination, Series WH hoses and couplers are designed so that the pump advance port can only be connected to the wrench advance port, and the pump retract port can only be connected to the wrench retract port.

OPERATION

Pump Operation:

1. Check all system fittings and connections to be sure they are tight and leak free.

2. Check oil level in reservoir. Oil level should be 1" to 2" from the top of the reservoir plate.

3. Be sure that the pump is "OFF"

4. Be sure the electrical connection is grounded. Check that your power agrees with the motor nameplate. Plug power cord into outlet.

5. Press "ON" on the pump switch to turn power on. Pressing the "ON" activates the electrical circuit, but does not turn the motor on. The pump motor is activated by the pendant switch.

6. Pendants supplied with the pumps have a momentary switch. Press momentary switch for "ADVANCE". Release "ADVANCE" and torque wrench piston will retract.
   NOTE: The electrical motor stays running after pump has stopped. Within 15 seconds of your last command from the pendant, motor will turn off, preventing heat buildup.

Air removal:

When the wrench is first connected to the pump, To ensure smooth and safe operation, remove air by cycling wrench several times without load. Cycle unit wrench advances and retracts without hesitation.

Pressure torque setting:

!! WARNING !! Make these adjustments BEFORE putting torque wrench on nut or bolt head. The pump pressure setting may be above the pressure needed to provide the required torque for your application. Exceeding required torque will cause equipment damage and may lead to serious personal injury.

1. See torque wrench instructions for amount of pressure required to produce desired torque.

2. Loosen lock nut and back out relief valve to prevent unintended pressure build-up.

3. Turn pump on. Press and hold the "ADVANCE" switch, and read pressure gauge.

4. While holding the switch, turn relief valve in (clockwise) to increase pressure or out (counter-clokwise) to decrease maximum pressure. Repeat until correct pressure is obtained.

5. Tighten lock nut on the relief valve to maintain setting.

6. Run pump several times to test this setting.

REFER TO TORQUE WRENCH INSTRUCTIONS FOR WRENCH OPERATING PROCEDURE.

MAINTENANCE

WARNING: THE ELECTRICAL POWER CORD MUST BE DISCONNECTED FROM ELECTRICAL OUTLETS BEFORE PERFORMING MAINTENANCE OR REPAIR PROCEDURES.

Maintain oil level:

Check hydraulic oil level every 30 hours of operation. Add SIMPLEX oil when necessary. Oil level should be no more than 2" from top of reservoir plate.

Completely change oil at least twice a year. The following conditions require more frequent oil changes:

a. Rigorous duty, where oil temperature may reach 140 F.
b. High humidity environment and extreme changes in temperature that can result in condensation inside the reservoir.
c. Dirty or dusty environments that may contaminate the oil.

Clean oil Filter Screen Once a Year

a. Loosen and remove reservoir plate bolts. Lift pump unit off the reservoir, being careful not to damage the gasket.
b. Unscrew screen from the bottom of pump unit and clean with nonflammable solvent.
c. Blow dry and reassemble.

Keep areas around pump unobstructed to provide good air flow around the motor and pump.
Keep the motor and pump as clean as possible.

Flushing the Pump:

If you suspect your pump has been contaminated or discover sludge or other deposits on internal components, you should toughly flush the pump.

a. Remove the old oil from the reservoir, than toughly clean the reservoir and refill with a clean, nonflammable flushing oil.
b. Reassemble the pump and motor to the reservoir.
c. Now run the pump in no pressure for 1 or 2 minutes maximum.
d. Unplug the pump and remove the motor and pump assembly again. Now drain the flushing oil and reclean the inside of the reservoir. (Make sure flushing fluid is also drained from pump assembly). Refill the reservoir with SIMPLEX hydraulic oil and reassemble the pump.

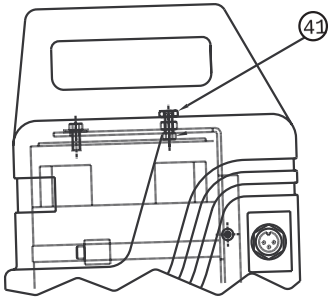
SECTION V

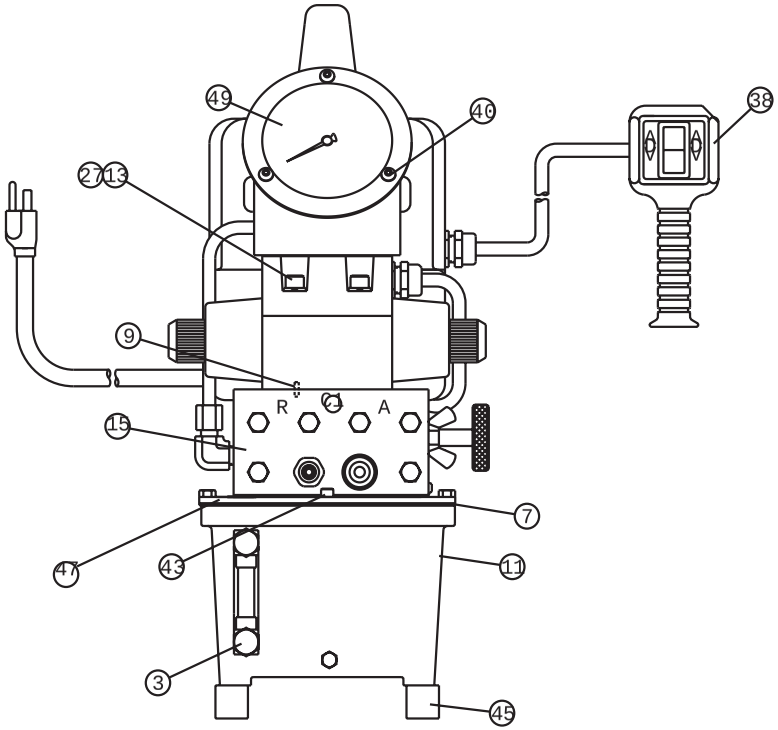
TROUBLESHOOTING

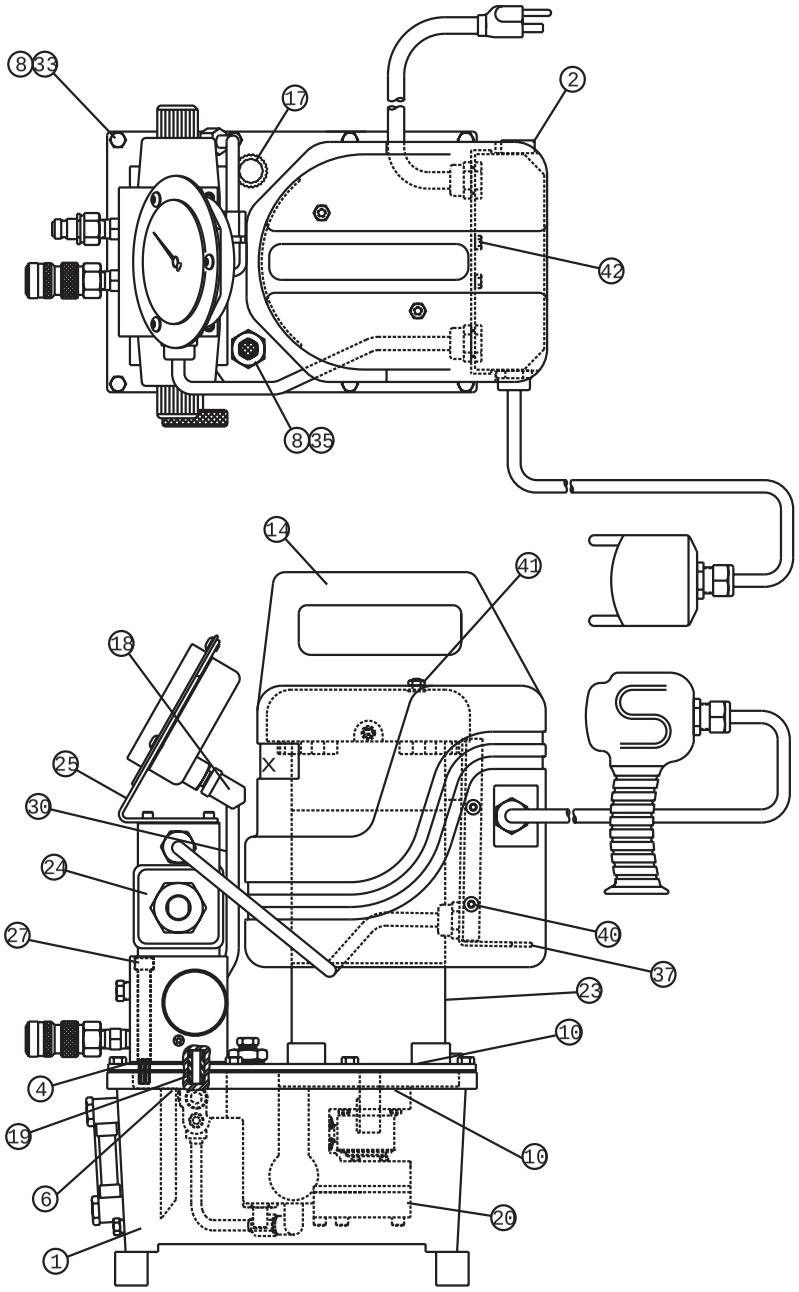
If the procedures listed below do not remedy the problem -- the pump will require service and should be taken to an authorized Simplex service center for repair

Problem	Cause -- Solution
Motor Will Not Start	Be sure power cord is not damaged. Check for tripped circuit breaker--be sure breaker is of adequate size. Have qualified electrician inspect for loose or faulty wiring. Have motor checked for defective motor capacitor. Be sure electrical supply and extension cords are adequate.
Noisy Operation	1. Air in system. procedure). 2. Be sure the oil reservoir is filled to normal level. 3. Check all points where air might leak into system.
Pump Oil is Over Heating	1. Oil viscosity too high. Replace with Simplex #9. 2. Check for high pressure leakage on upper pressure plate. (Leaking at plug). 3. Oil level is low. Fill reservoir to normal level, or refit the pump with larger reservoir.
Pump Runs but Will Not Pump Oil	1. Pump is not primed. Run pump a few minutes tipping from side to side. 2. Check to make sure that externally adjustable relief valve set properly. Check internal relief valve. 3. Damaged O-Rings. Take to nearest Simplex service center for repair. 4. Defective control valve. (Troubleshoot separately).

.5 & 1.5 HP ELECTRIC TORQUE WRENCH PUMP



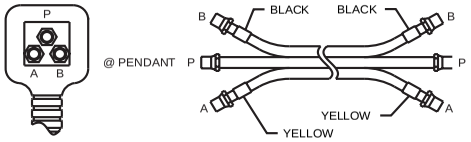




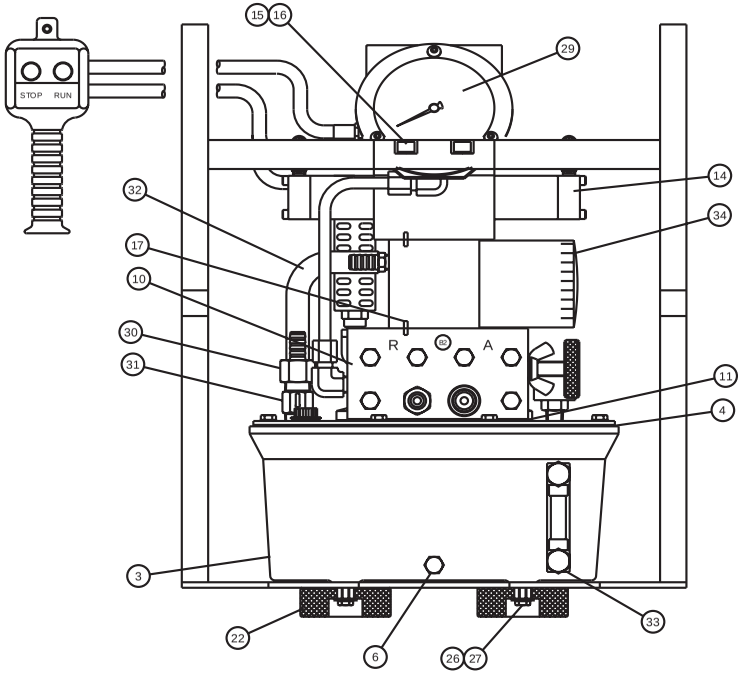
.5 & 1.5 HP ELECTRIC TORQUE WRENCH PUMP

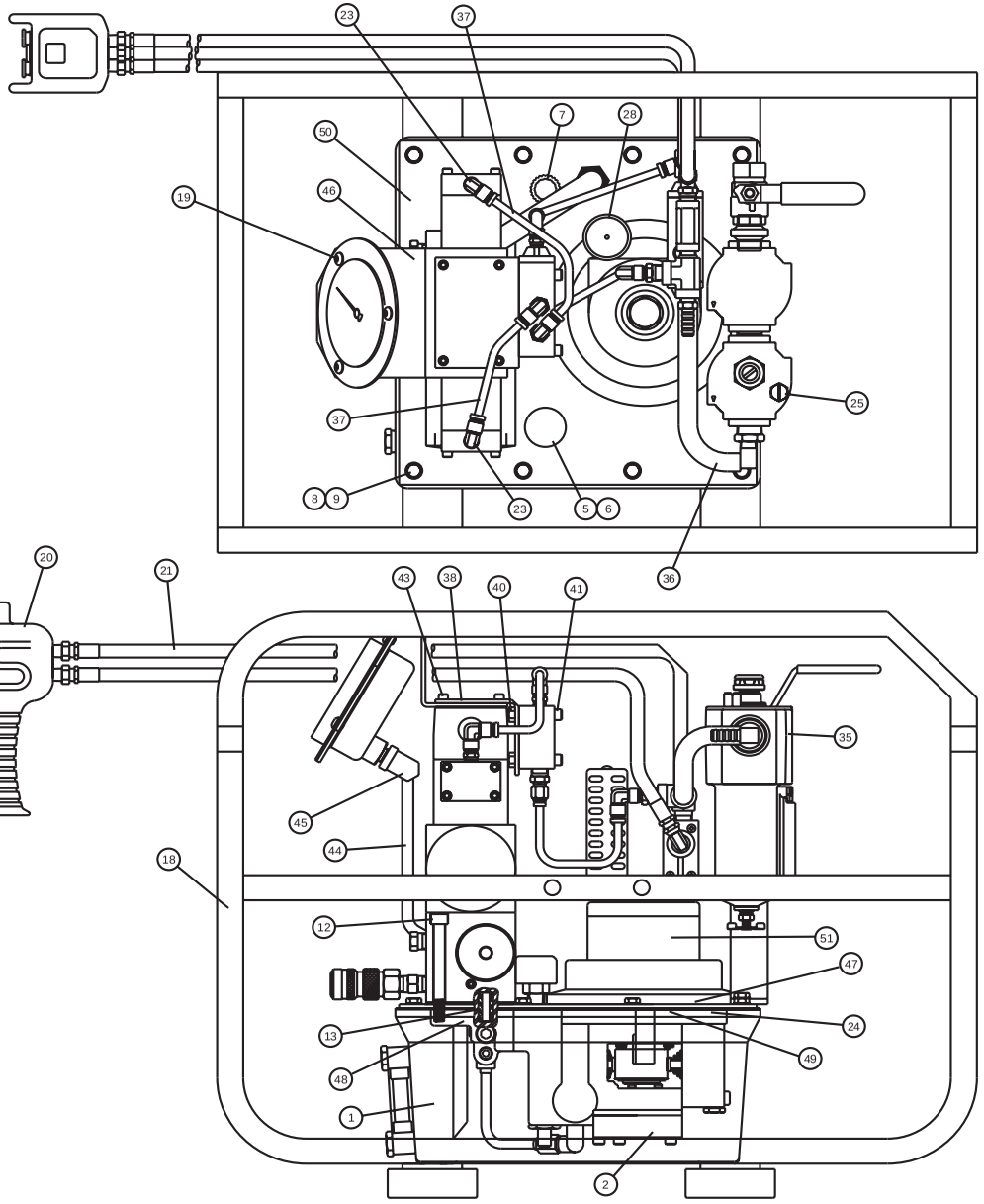
Item	Part Number	Description	PET2031	PET2042	PET2131	PET2141	PET2841	PET7042	PET7142	PET7342	PET7842	PAGE
1	18135	18135	1	2	1	1	1	2	2	2	2	
2	69159	Switch On/Off	1	1	1	1	1	1	1		1	
3	69284	Gage liquid level	1	1	1	1	1	1	1	1	1	
4	68722	Gasket valve	1	1	1	1	1	1	1	1	1	
5	66012	Gasket Motor	1	1	1	1	1	1	1	1	1	
6	68231	Gasket Pump	1	1	1	1	1	1	1	1	1	
7	68608	Gasket Reservoir	1		1	1	1					
	66014			1				1	1	1	1	
8	69264	Breather Vent	1		1	1	1					
	68000			1				1	1	1	1	
9	561604	Roll pin	1	1	1	1	1	1	1	1	1	
10	68551	Gasket Pump	1	1	1	1	1	1	1	1	1	
11	69496	Reservoir	1		1	1	1					
	69285			1				1	1	1	1	
12	93943	Washer					4				4	
13	Y0010260	Pipe Plug	1	1	1	1	1	1	1	1	1	
14	69074	Shroud	1	1			1	1		1	1	
	69076				1	1			1			
15	69727	Manifold Assembly	1		1							
	43384			1		1		1	1	1		
	68672						1				1	
16	69353	Spacer						2	2	2	2	
17	68571	Filler Plug	1	2	1	1	1	2	2	2	2	
18	43166	Elbow 90	1	1	1	1	1	1	1	1	1	
19	68963	Adapter Assembly	1	1	1	1	1	1	1	1	1	
20	18718	Pump Assembly	1	1	1	1	1					
	18852							1	1	1	1	
21	43364	Screw Cover	8	8	8	8		8	8	8		
	86095						12				12	
22	87492	Pipe Plug	1	1	1	1	1	1	1	1	1	
23	68957	Motor Electric	1	1	1	1	1					
	68376							1	1	1	1	
24	69371	Valve Assembly	1	1	1	1	1	1	1		1	
25	43407	Gauge Bracket Plate	1	1	1	1		1	1		1	
26	88363						1			1		
27	43362	Screw Manifold & Valve	3	3	3	3		3	3	3		
	99921						3				3	
28	4100067	Nipple					2				2	
29	CT210	Nipple					1				1	
30	43378	Tube Elec T-Wrench	1	1	1	1		1	1	1		
31	93596	Screw Motor	2	2	2	2	2	2	2	2	2	
33	88429	Washer	8	8	8	8	8	12	8	8	12	
35	69976	Pipe Connecto	1	1	1	1	1	1	1	1	1	
36	CT211	Female Coupler	6	6	6	6	6	6	6	6	6	
37	69529	MountingBracket					1				1	
	43370		1	1	1	1						
	43369							1	1	1		
38	69972	Adv. Pendant	1	1	1	1		1	1	1		
	69365						1				1	
39	18970	Elbow 90 Strt.	1	1	1	1	1	1	1	1	1	
40	69236	BHCS 10-24X .25	1	1	1	1	1	1	1	1	1	
	43365		4	4	4	4	4	4	4	4	4	
41	69234	Hex Nut					4				4	
	43366		2	2	2	2		2	2	2		
42	68964	SCR Self Form	4	4	4	4	4	4	4	4	4	
43	43355	Screw 1/4 - 20	1	1	1	1	1					
44	69018	Motor Cover	1	1	1	1	1					
45	69479	Rubber Foot	4	4			4	4		4	4	
46	G7	700 Bar Gage					1				1	
47	69526	Cover Plate (All Others)						1	1	1	1	
	68607	Cover Plate (1 Gal. Only)	1	1	1	1	1					
48	98250	Screw	1	1	1	1	1	1	1	1	1	
49	43408	Pres Gauge W / Flange	1	1	1	1		1	1	1		

1.5 HP AIR TORQUE WRENCH PUMP



HOSE CONNECTION DIAGRAM



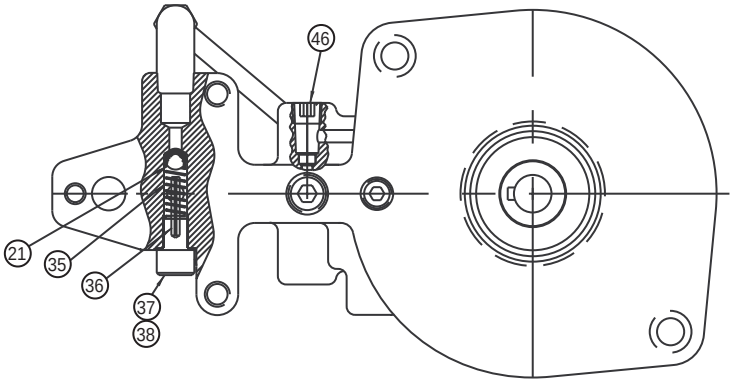


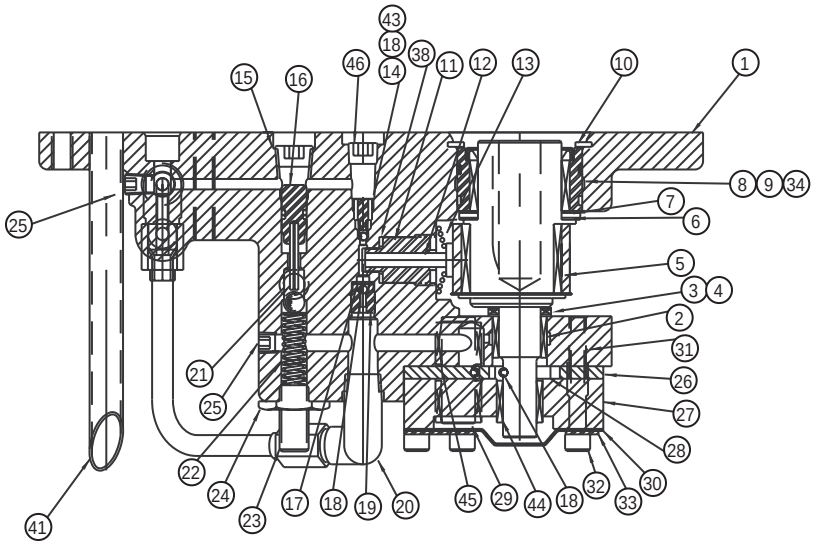
1.5 HP AIR TORQUE WRENCH PUMP

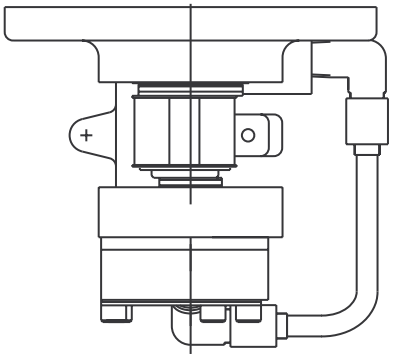
ITEM	PART NO.	QTY.	DISCRIPTION	ITEM	PART NO.	QTY.	DISCRIPTION
1	18135	2	1 GAL OIL	45	43166	1	Elbow
2	18721	1	Pump Asm.	46	43360	1	Gauge BRK. Filter
3	69285	1	Reservoir	47	66012	1	Gasket-Motor
4	66014	1	Gasket	48	68231	1	Gasket
5	68000	1	Breather Vent	49	68551	1	Gasket
6	43380	2	Hex Pipe Plug	50	69526	1	Cover Plate
7	68571	1	Filler Plug	51	88559		Air Motor
8	43364	12	HHCS 1/4-20x5/8				
9	88429	12	Washer				
10	43384	1	Manifold Asm. Torque				
11	68722	1	Valve Gasket Torque				
12	43362	3	Screw				
13	68963	1	Adapter Assy.				
14	43022	1	Valve Air Torque OC				
15	43354	4	Screw				
16	Y0010260	4	Lock Washer				
17	561604	2	Rollpin				
18	69131	1	Roll Cage				
19	43365	3	BHCS 10-24x.25				
20	68799	1	Pendant Air Torq WRE.				
21	41965	1	Hose				
22	69133	4	Rubber Foot Mach.				
23	69362	2	Swivel Nut Elbow				
24	93596	2	Screw				
25	18243	.05	Anti-Freeze Lube				
26	43363	4	HHCS 1/4-20x1				
27	43361	4	Washer				
28	18970	1	Elbow 1/4 90Deg.				
29	43408	1	Pres Gauge W / Flange				
30	69849	1	Hose Barb				
31	69850	1	Relief Check Valve				
32	69655	1	Tube				
33	69284	1	Gage Liquid Level				
34	69740	1	Filter Block Asm.				
35	43393	1	Fltr/Lube Asm.				
36	69538R	1	Push Lock Hose				
37	69361	1	Nylon Tubing				
38	68786	1	Bracket Valve Mount.				
40	43366	2	Heavy Hex Nut				
41	43508	2	Screw 1/4-20x1.5				
43	43509	4	Screw 10-32x3/8				
44	43379	1	Tube Filter Torqpump				

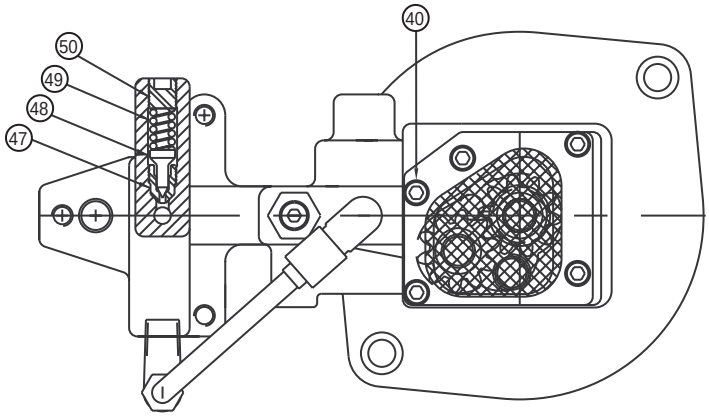
PUMP ASSEMBIES

18718









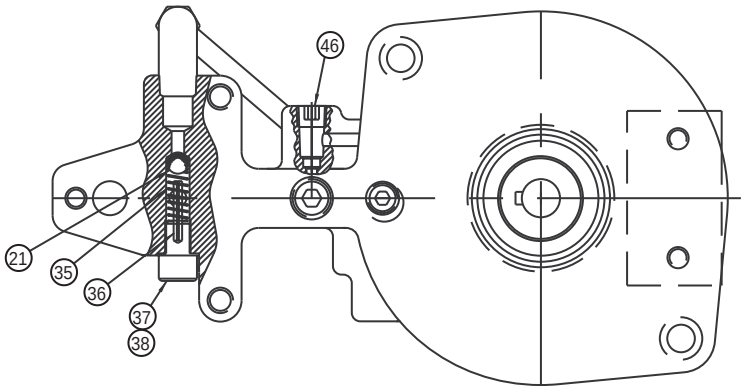
PUMP ASSEMBIES

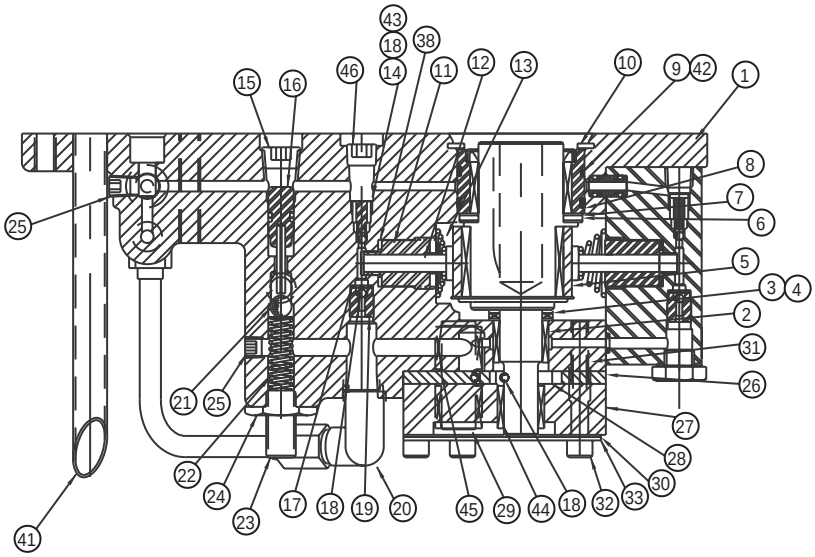
18718

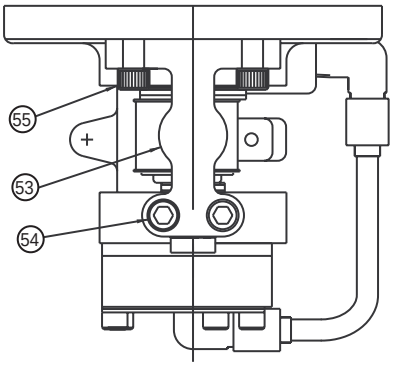
ITEM	PART NO.	QTY.	DISCRIPTION	ITEM	PART NO.	QTY.	DISCRIPTION
1	68835	1	Pump Body	45	68892	1	Retaining Ring
2	68360	1	Roller Bearing	46	81093	2	PIpe Plug
3	66033	1	Thrust Bearing	47	68004	1	Ext. Relief Seat
4	66474	2	Race Bearing	48	68003	1	Ext. Relief Cone
5	69082	1	Ecc. Shaft Assm.	49	66085	1	Valve Relief Spring
6	66106	1	Thrust Bearing	50	66083	1	Adjust Screw
7	66108	1	Race Bearing				
8	68829	1	Adaptor Shaft Assm.				
9	56020322	1	O-Ring				
10	68978	1	Retaining Ring				
11	68979	1	Adaptor Pump .187 Dia.				
12	68980	1	Piston Pump .187 Dia				
13	68340	1	Piston Spring				
14	68810	1	Ball Stop				
15	93950	1	1/4 Socket Pipe Plug				
16	68535	1	Piston Unloading Assm.				
17	66043	1	Ball Retainer				
18	90906	5	803C-7D Ball Bearing				
19	66046	1	Intake Seat				
20	68851	1	Tube Assm.				
21	91701	2	R102-10B Ball Bearing				
22	68981	1	Spring				
23	68242	1	Set Screw				
24	68920	1	Nut-Hex Jam				
25	97641	2	Soc Pipe Plug Steel				
26	68848	1	Center Plate .11				
27	68849	1	Bottom Plate				
28	68883	2	Gear Pump				
29	68850	1	Shaft-Idler				
30	68921	1	Screen				
31	68894	2	Guide Tube				
32	68255	4	Screw				
33	68927	1	Plate-Screen Mount				
34	69513	1	Backup Washer				
35	68225	1	Spring				
36	81332	1	Roll Pin 1/8 x 15/16				
37	68226	1	Ball Stop Screw				
38	85726	2	Gasket				
40	89148	1	Screw				
41	68569	1	Return Tube				
43	66042	1	Spring				
44	68891	3	Bearing				

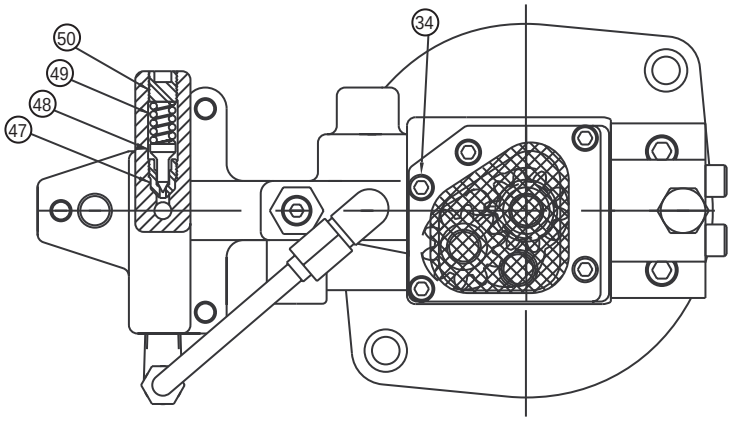
PUMP ASSEMBIES

18852







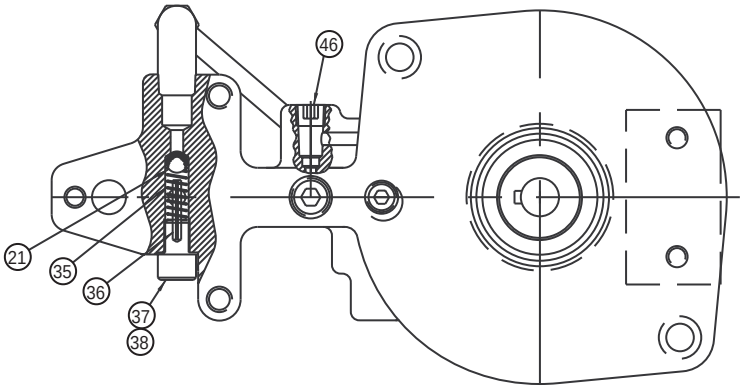


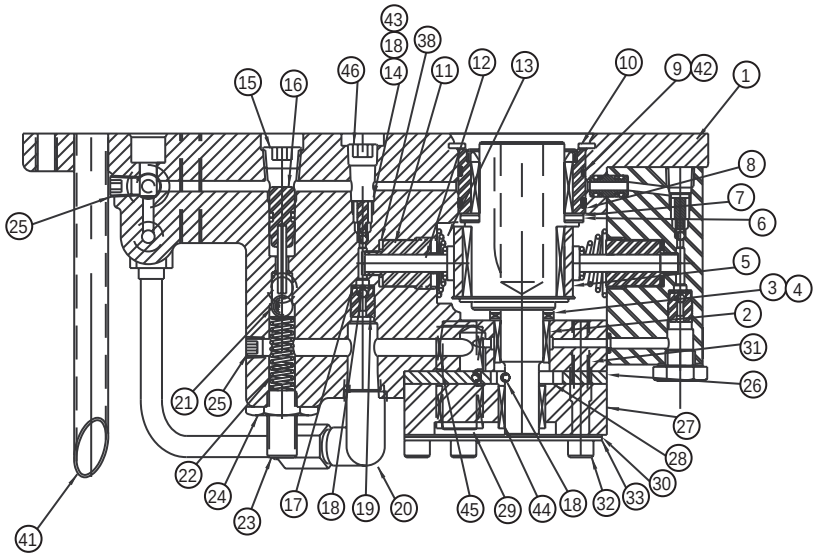
PUMP ASSEMBIES

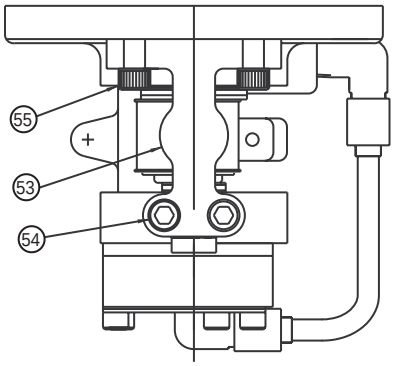
18852

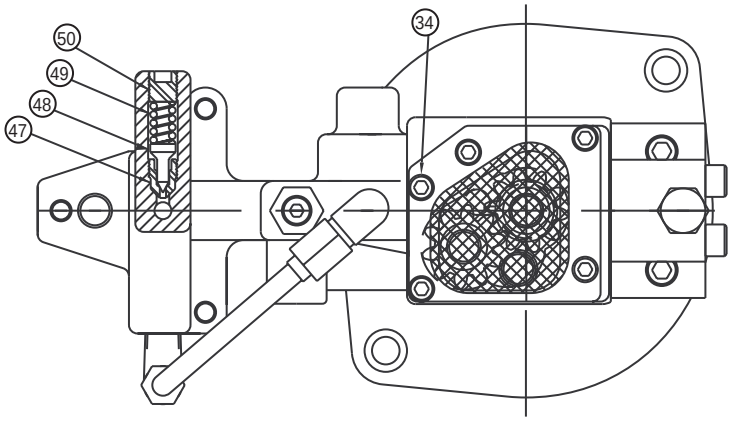
ITEM	PART NO.	QTY.	DISCRIPTION	ITEM	PART NO.	QTY.	DISCRIPTION
1	68507	1	2 Piston Pump Body	45	68892	1	Retaining Ring
2	68360	1	Roller Bearing	46	81093	2	PIpe Plug
3	66033	1	Thrust Bearing	47	68004	1	Ext. Relief Seat
4	66474	2	Race Bearing	48	68003	1	Ext. Relief Cone
5	69082	1	Ecc. Shaft Assm.	49	66085	1	Valve Relief Spring
6	66106	1	Thrust Bearing	50	66083	1	Adjust Screw
7	66108	1	Race Bearing	53	68502	1	Piston Block Assm.
8	68829	1	Adaptor Shaft Assm.	54	82892	2	SHCS 5/16-24 X 2
9	56020322	2	O-Ring	55	82687	2	Screw
10	68978	1	Retaining Ring				
11	68945	1	Adaptor Piston .225 Dia.				
12	67868	1	Piston .225 Dia				
13	68340	1	Piston Spring				
14	68810	1	Ball Stop				
15	93950	1	1/4 Socket Pipe Plug				
16	68535	1	Piston Unloading Assm.				
17	66043	1	Ball Retainer				
18	90906	5	803C-7D Ball Bearing				
19	66046	1	Intake Seat				
20	68851	1	Tube Assm.				
21	91701	2	R102-10B Ball Bearing				
22	68981	1	Spring				
23	68242	1	Set Screw				
24	68920	1	Nut-Hex Jam				
25	97641	2	Soc Pipe Plug Steel				
26	68848	1	Center Plate .11				
27	68849	1	Bottom Plate				
28	68883	2	Gear Pump				
29	68850	1	Shaft-Idler				
30	68921	1	Screen				
31	68894	2	Guide Tube				
32	68255	4	Screw				
33	68927	1	Plate-Screen Mount				
34	89148	1	Screw				
35	68225	1	Spring				
36	81332	1	Roll Pin 1/8 x 15/16				
37	68226	1	Ball Stop Screw				
38	85726	2	Gasket				
41	68569	1	Return Tube				
42	69513	2	Backup Washer				
43	66042	1	Spring				
44	68891	3	Bearing				

PUMP ASSEMBIES 18721



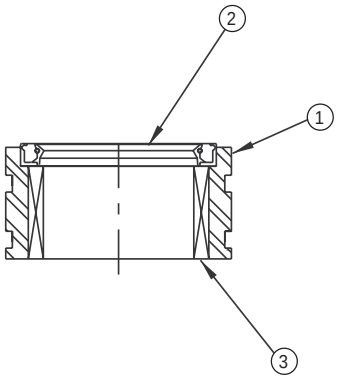






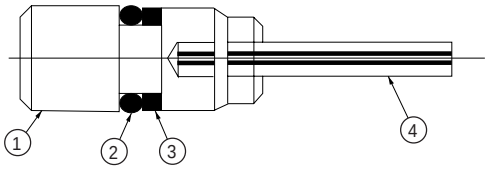
PUMP ASSEMBIES 18721

ITEM	PART NO.	QTY.	DISCRIPTION	ITEM	PART NO.	QTY.	DISCRIPTION
1	68507	1	2 Piston Pump Body	45	68892	1	Retaining Ring
2	68360	1	Roller Bearing	46	81093	2	PIpe Plug
3	66033	1	Thrust Bearing	47	68004	1	Ext. Relief Seat
4	66474	2	Race Bearing	48	68003	1	Ext. Relief Cone
5	69082	1	Ecc. Shaft Assm.	49	66085	1	Valve Relief Spring
6	66106	1	Thrust Bearing	50	66083	1	Adjust Screw
7	66108	1	Race Bearing	53	68832	1	Piston Block Assm.
8	68829	1	Adaptor Shaft Assm.	54	82892	2	SHCS 5/16-24 X 2
9	56020322	2	O-Ring	55	82687	2	Screw
10	68978	1	Retaining Ring				
11	68915	1	Adaptor Piston .210 Dia.				
12	68830	1	Piston .210 Dia				
13	68340	1	Piston Spring				
14	68810	1	Ball Stop				
15	93950	1	1/4 Socket Pipe Plug				
16	68535	1	Piston Unloading Assm.				
17	66043	1	Ball Retainer				
18	90906	5	803C-7D Ball Bearing				
19	66046	1	Intake Seat				
20	68851	1	Tube Assm.				
21	91701	2	R102-10B Ball Bearing				
22	68981	1	Spring				
23	68242	1	Set Screw				
24	68920	1	Nut-Hex Jam				
25	97641	2	Soc Pipe Plug Steel				
26	68848	1	Center Plate .11				
27	68849	1	Bottom Plate				
28	68883	2	Gear Pump				
29	68850	1	Shaft-Idler				
30	68921	1	Screen				
31	68894	2	Guide Tube				
32	68255	4	Screw				
33	68927	1	Plate-Screen Mount				
34	89148	1	Screw				
35	68225	1	Spring				
36	81332	1	Roll Pin 1/8 x 15/16				
37	68226	1	Ball Stop Screw				
38	85726	2	Gasket				
41	68569	1	Return Tube				
42	69513	2	Backup Washer				
43	66042	1	Spring				
44	68891	3	Bearing				



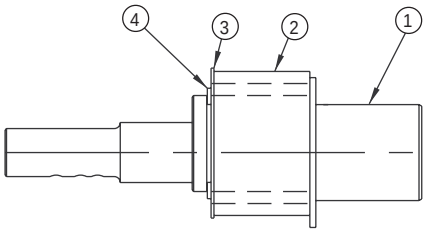
Assembly #68829

Item	Part No.	Description	Qty.
1	68219	Adapter-Shaft	1
2	66030	Bearing	1
3	68901	Seal	1



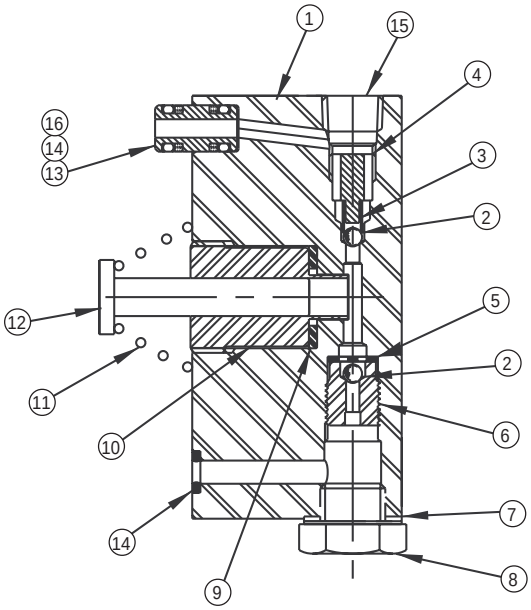
Assembly #68535

Item	Part No.	Description	Qty.
1	68209	Piston	1
2	5602010	O-Ring	1
3	68145	Back-Up Ring	1
4	93837	Roll Pin	1



Assembly #69082

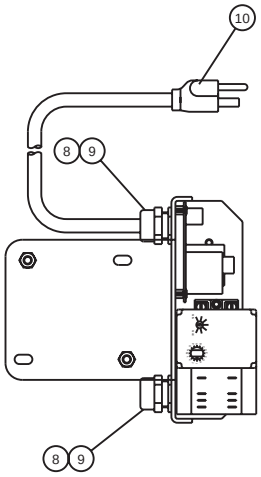
Item	Part No.	Description	Qty.
1	68859	Shaft Ecc.	1
2	69081	Ecc. Bearing Assembly	1
3	66108	Race Bearing	1
4	67863	Retaining Ring	1

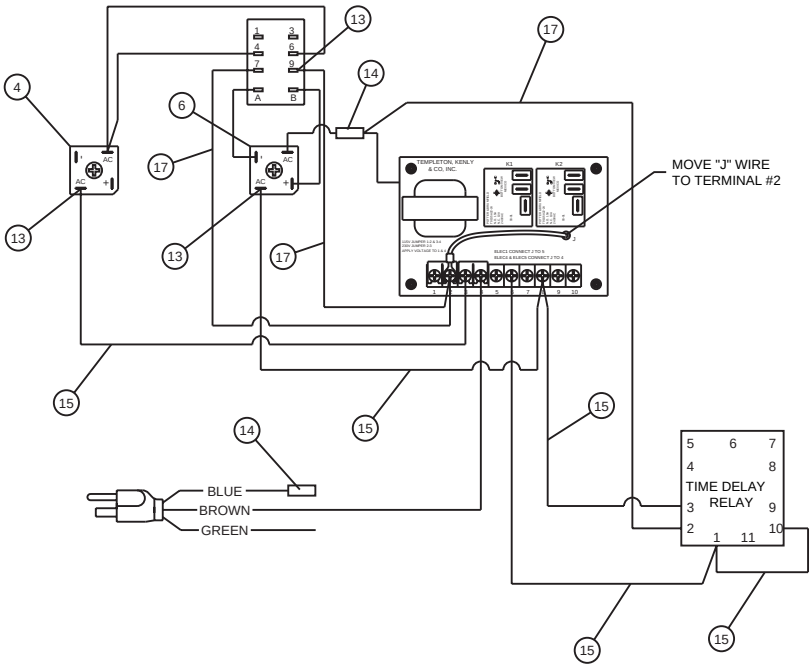


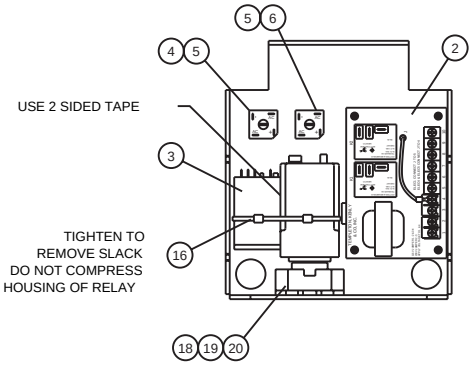
Assembly #68502 (70 Series)

Item	Part No. 68502	Description	Qty.
1	68501	Piston Block	1
2	90906	Ball St 803C-7D	2
3	66042	Spring	1
4	68810	Ball Stop	1
5	66043	Ball Retainer	1
6	66046	Intake Seat	1
7	86269	Gasket	1
8	68825	Screw	1
9	85727	Gasket	1
10	68915	Adapter	1
11	68340	Spring Piston	1
12	67868	Piston (Pump)	1
13	68445	Adapter Assembly	1
14	5602008	O-Ring	3
15	93949	SOC Pipe Plug 1/8	1
16	56080087	Back-Up Ring	2

43369 & 43370 MOUNTING BRACKET ASSEMBLY

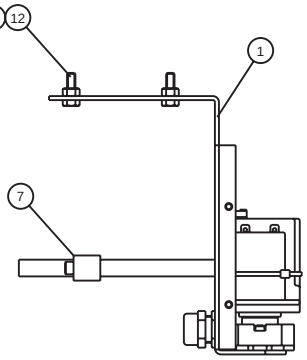




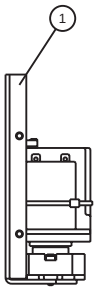


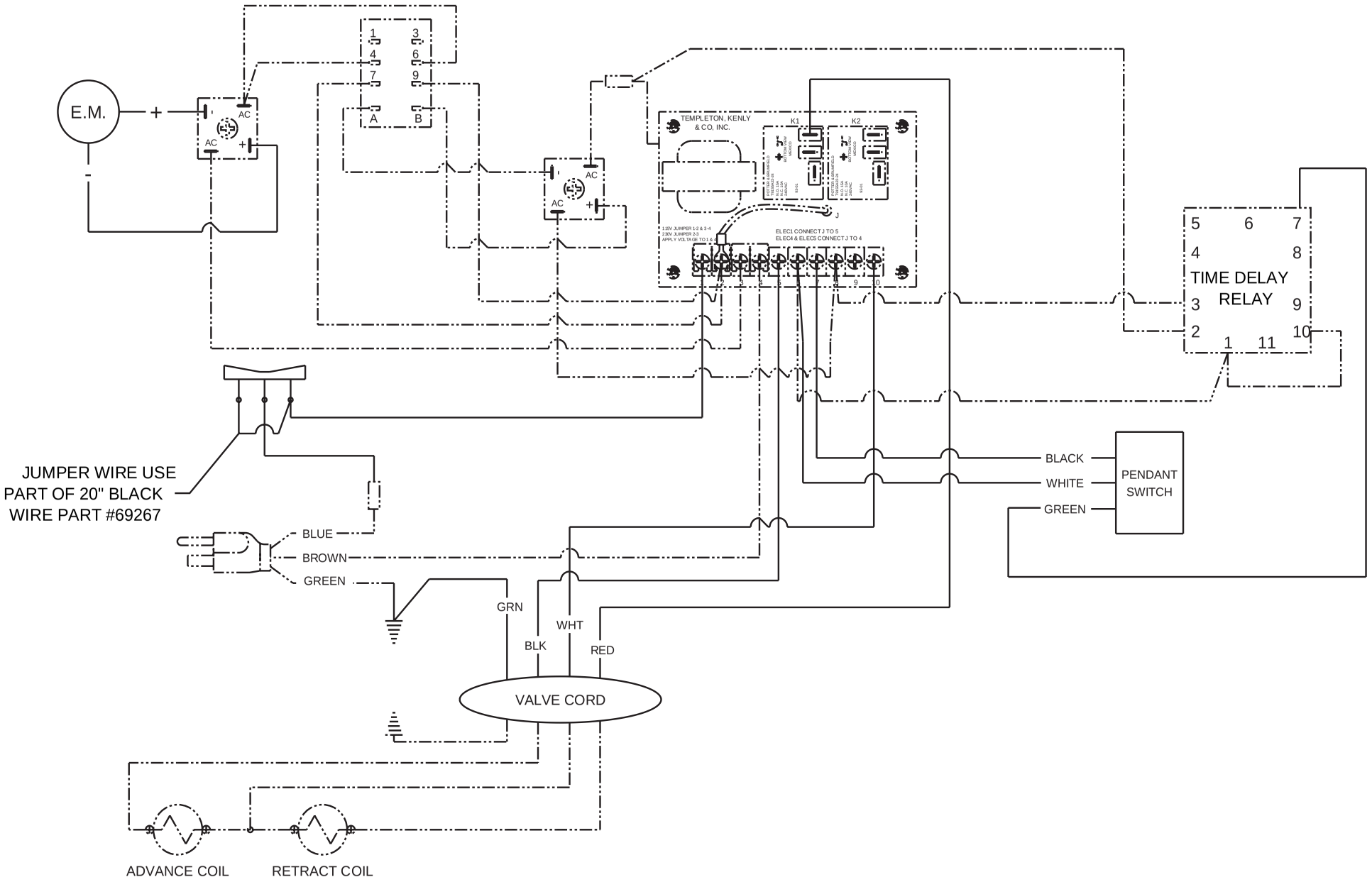
ITEM	PART NO	DESCRIPTION	43369	43370
1	43367	MOUNT BRK. TORQ.	1	
	43368			1
2	68977	CIRCUIT BOARD ASM.	1	1
3	69587	RELAY SUB-ASM	1	1
4	68623	RECTIFIER	1	1
5	88032	SCREW	1	1
6	69489	RECTIFIER	2	2
7	69235	HOSE CLAMP	1	
8	85510	LOCKNUT	1	1
9	68375	FITTING, CORD L-TIGHT	2	2
10	68595	PLUG AND CORD ASSY	2	2
11	43364	HHCS 1/4-20X5/8	1	
12	93849	HEX NUT	2	
13	65888	PUSH-ON TERMINAL	2	2
14	66132	BUTT CONNECTOR	4	4
15	68262	WIRE	2	2
16	68683	TIE CABLE	4	4
17	68261	WIRE	2	1
18	69375	TIME DELAY RELAY	1	1
19	69970	RELAY SOCKET	1	1
20	43460	SCREW	1	1
21	68261B	WIRE	2	2
22	68262B	WIRE	1	1

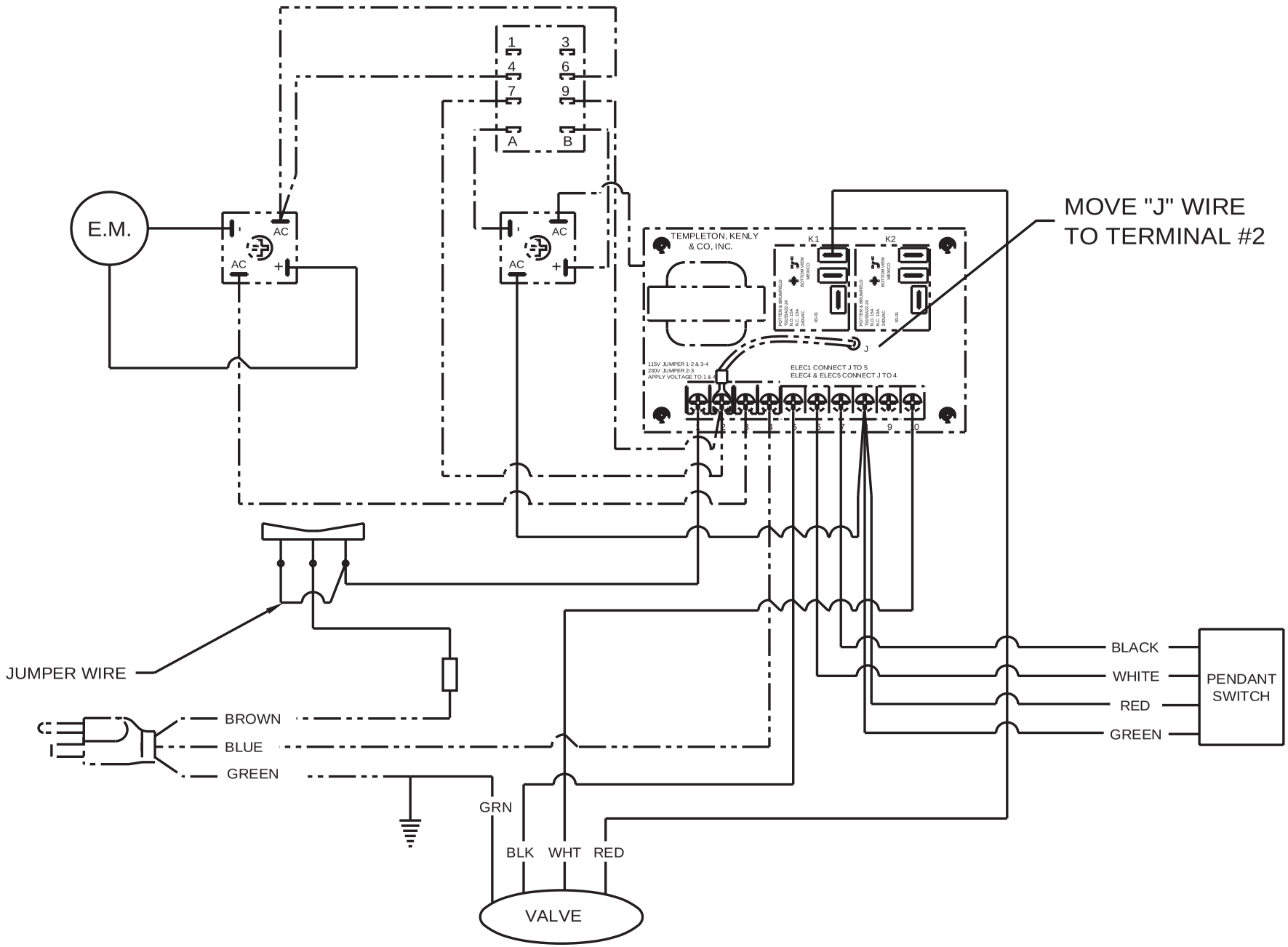
USE FOR 43369 ONLY



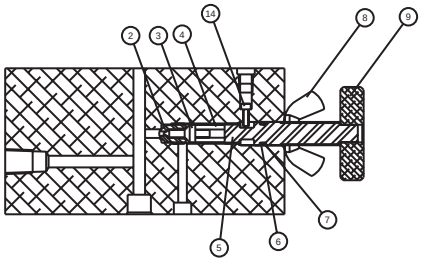
USE FOR 43370 ONLY

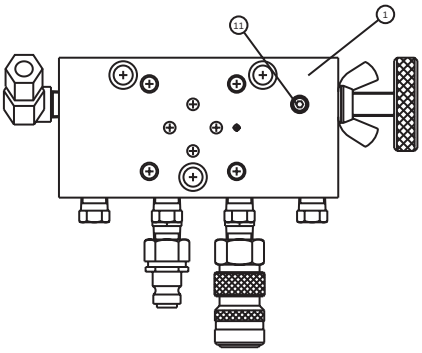


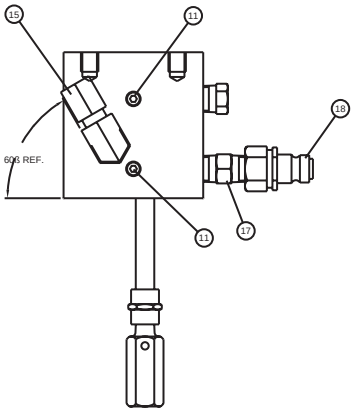

E.M.
+
-
AC
AC
AC
AC
1
3
4
6
7
9
A
B
TEMPLETON, KENLY
& CO, INC.
K1
K2
J
1-15V JUMPER 1-2 & 3-4
2-30V JUMPER 2-3
APPLY VOLTAGE TO 1 & 4
ELEC1 CONNECT J TO 5
ELEC4 & ELEC5 CONNECT J TO 4
5
6
7
4
8
TIME DELAY
RELAY
3
9
2
10
1
11
JUMPER WIRE USE
PART OF 20" BLACK
WIRE PART #69267
BLUE
BROWN
GREEN
GRN
BLK
WHT
RED
VALVE CORD
BLACK
WHITE
GREEN
PENDANT
SWITCH
ADVANCE COIL
RETRACT COIL

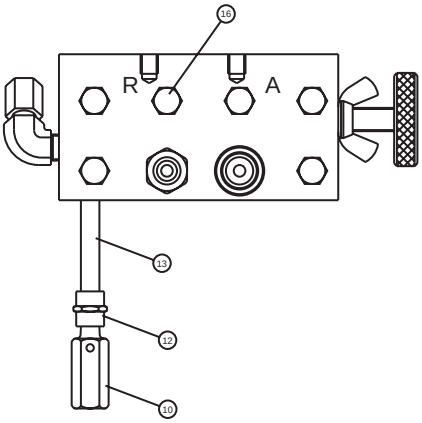

E.M.
AC
AC
AC
AC
1
3
4
6
7
9
A
B
TEMPLETON, KENLY
& CO, INC.
K1
K2
MOVE "J" WIRE
TO TERMINAL #2
J
115V JUMPER 1-2 & 3-4
230V JUMPER 2-3
APPLY VOLTAGE TO 1 &
ELEC1 CONNECT J TO 5
ELEC4 & ELEC5 CONNECT J TO 4
JUMPER WIRE
BROWN
BLUE
GREEN
GRN
BLK
WHT
RED
VALVE
BLACK
WHITE
RED
GREEN
PENDANT
SWITCH

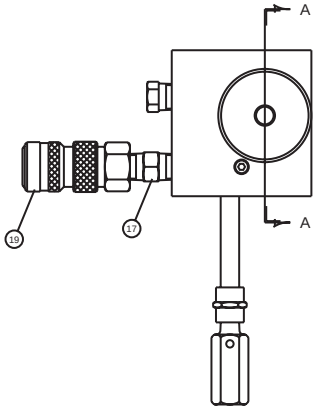
43384 MANIFOLD ASM TORQUE





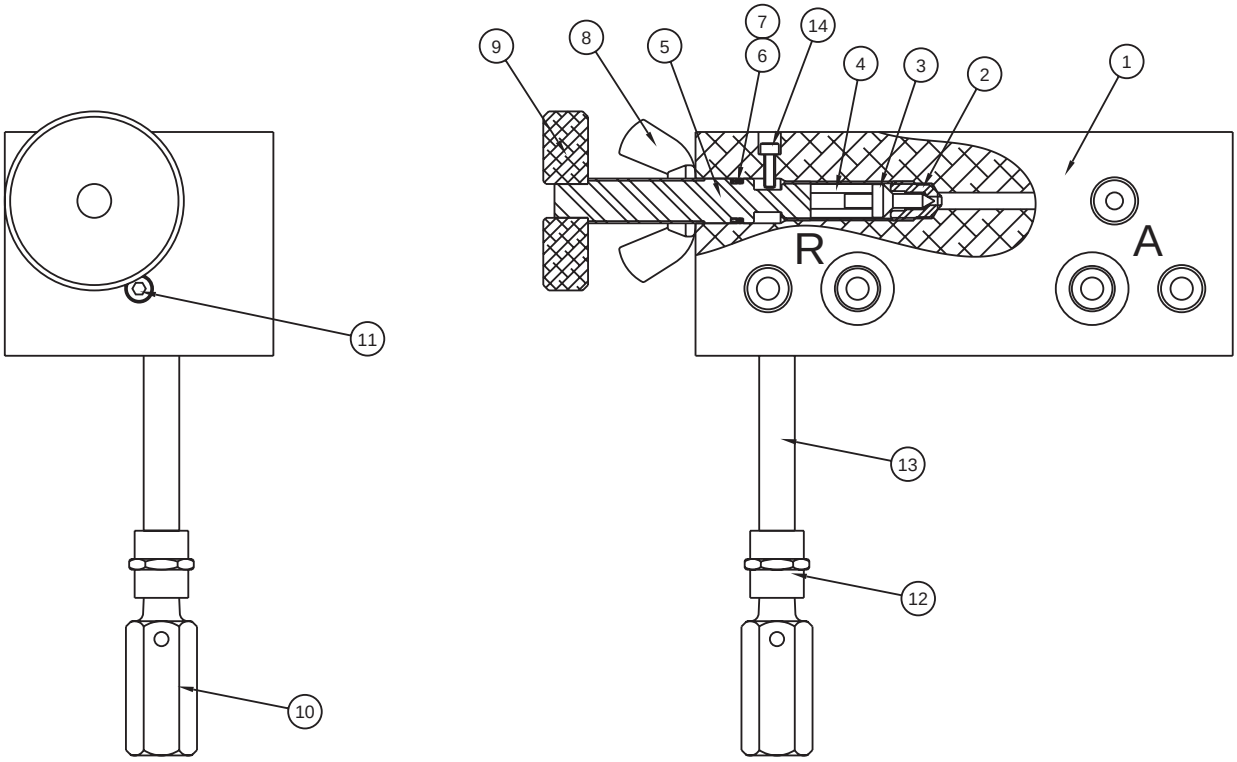






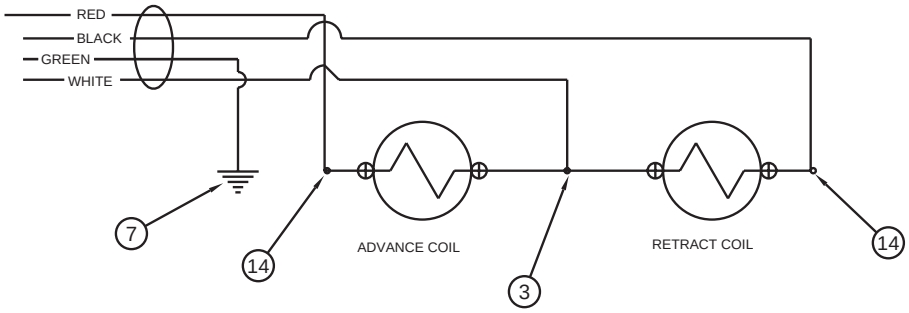
ITEM	PART NO.	DESCRIPTION	QTY
1	43371	MANIFOLD TORQ 4 PORT	1
2	68004	SEAT	1
3	68003	CONE	1
4	66085	SPRING REL. VAL.	1
5	68655	ADJUST STEM	1
6	5602012	O'RING	1
7	65881	B-U RING	1
8	68695	ADJUST WING NUT	1
9	88508	ADJUST KNOB	1
10	68999	INT. RELIEF ASM. HF	1
11	97641	SOC. PIPE PLUG	5
12	68918	PIPE COUPLING	1
13	68917	PIPE NIPPLE	1
14	69372	SCREW	1
15	89698	MALE ELBOW	1
16	43380	HEX PIPE PLUG	6
17	4100067	NIPPLE	2
18	CT210	NIPPLE	1
19	CT211	FEMALE COUP'R	1

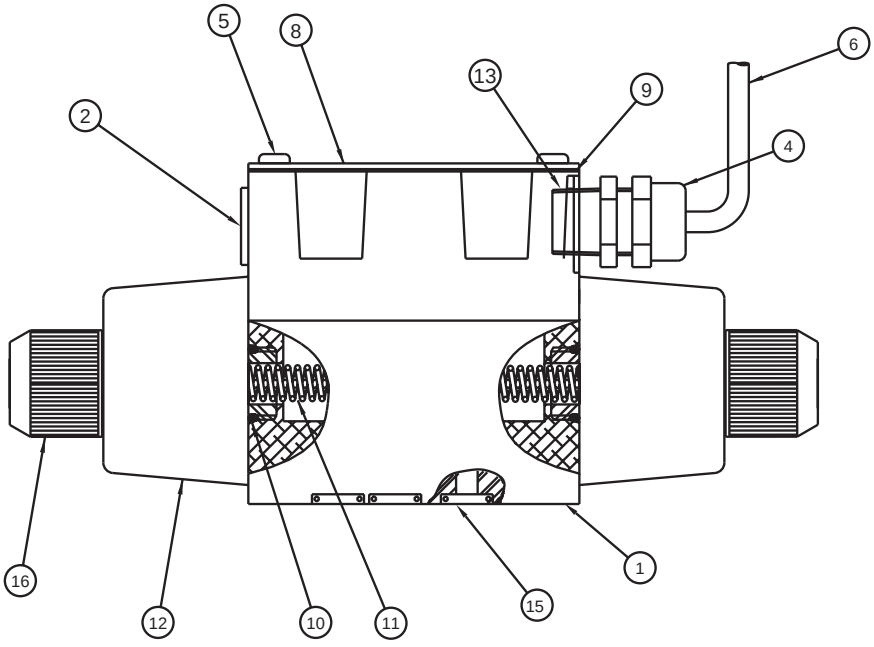
68672 MANIFOLD ASSEMBLY



ITEM	PART NO.	DESCRIPTION	QTY
1	68673	MANIFOLD TORQ. WRENCH	1
2	68004	SEAT	1
3	68003	CONE	1
4	66085	SPRING	1
5	68655	ADJUSTING STEM	1
6	5602012	O'RING	1
7	65881	B-U RING	1
8	68695	ADJUSTING WING NUT	1
9	88508	ADJUSTING KNOB	1
10	68999	INT. RELIEF ASM HF	1
11	97641	PIPE PLUG	2
12	68918	PIPE COUPLING	1
13	68917	PIPE NIPPLE	1
14	69372	SCREW	1

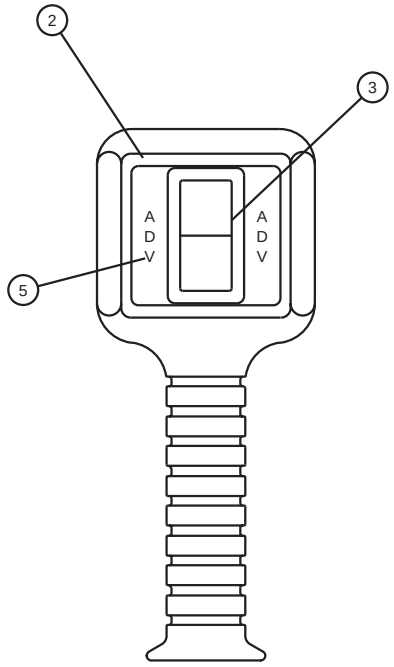
69247 VALVE ASSEMBLY 4W ELECTRIC

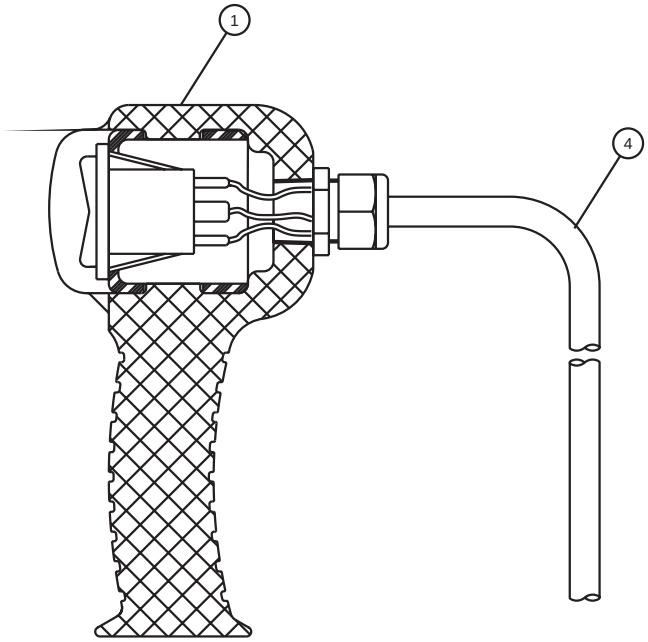


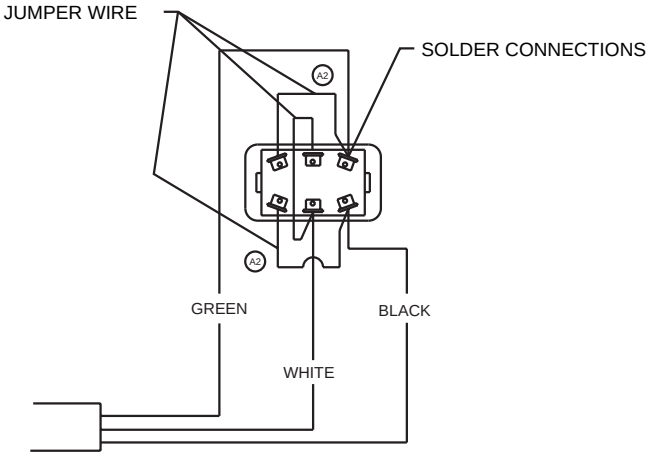


ITEM	PART NO	DESCRIPTION	QTY
1	68710	VALVE ASSEMBLY	1
2	68130	HOLE PLUG	1
3	66132	BUTT CONNECTOR	1
4	68375	FITTING, CORD L-TIGHT	1
5	98250	SCREW	4
6	69373	SOLENOID VALVE CORD	1
7	65887	SPADE, TERMINAL	1
8	68388	COVER, VALVE	1
9	68389	GASKET CVR	1
10	5603910	O'RING	2
11	68711	SPRING	2
12	68730	COIL 115VAC	2
13	85510	LOCKNUT	1
14	68093	WIRE NUT	2
15	56020112	O'RING	4
16	68729	PUSHER-SOLENOID	2

69972 ADVANCE PENDANT

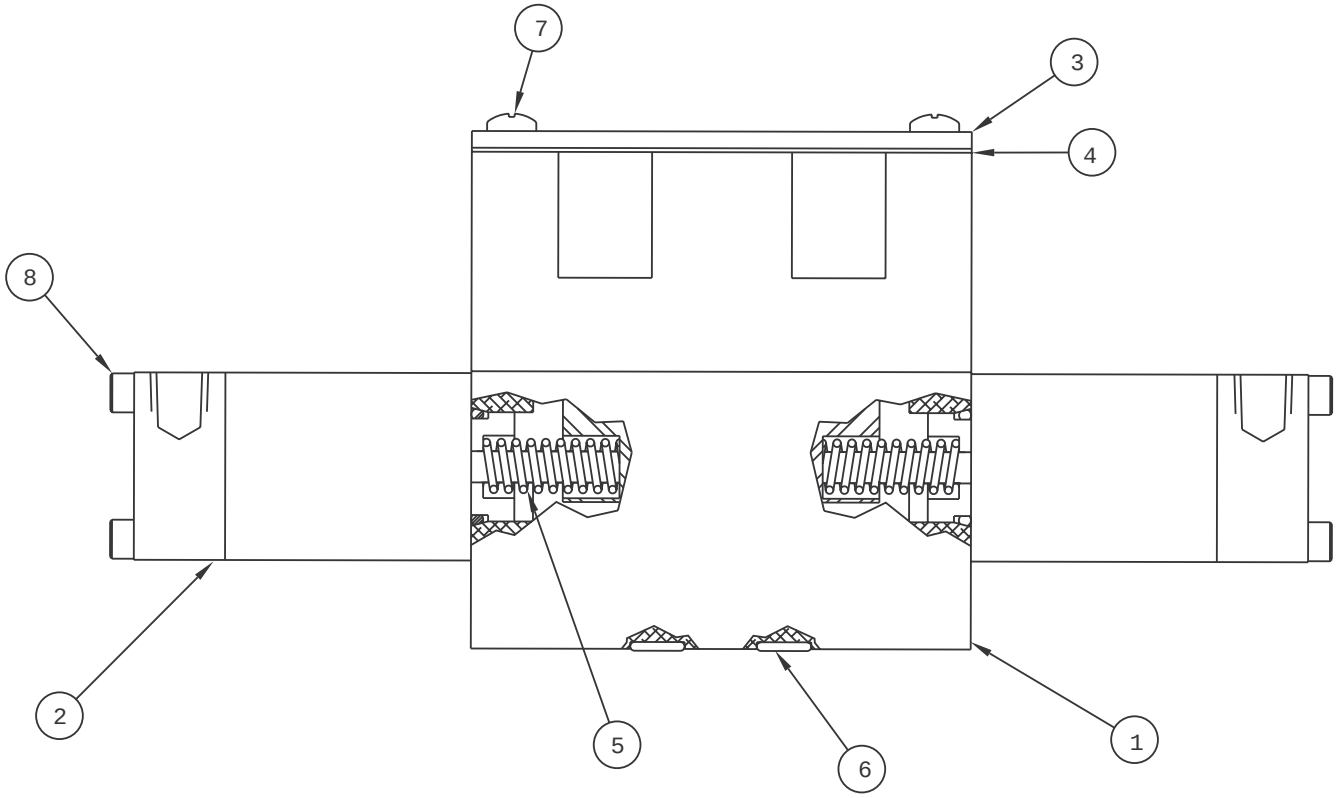






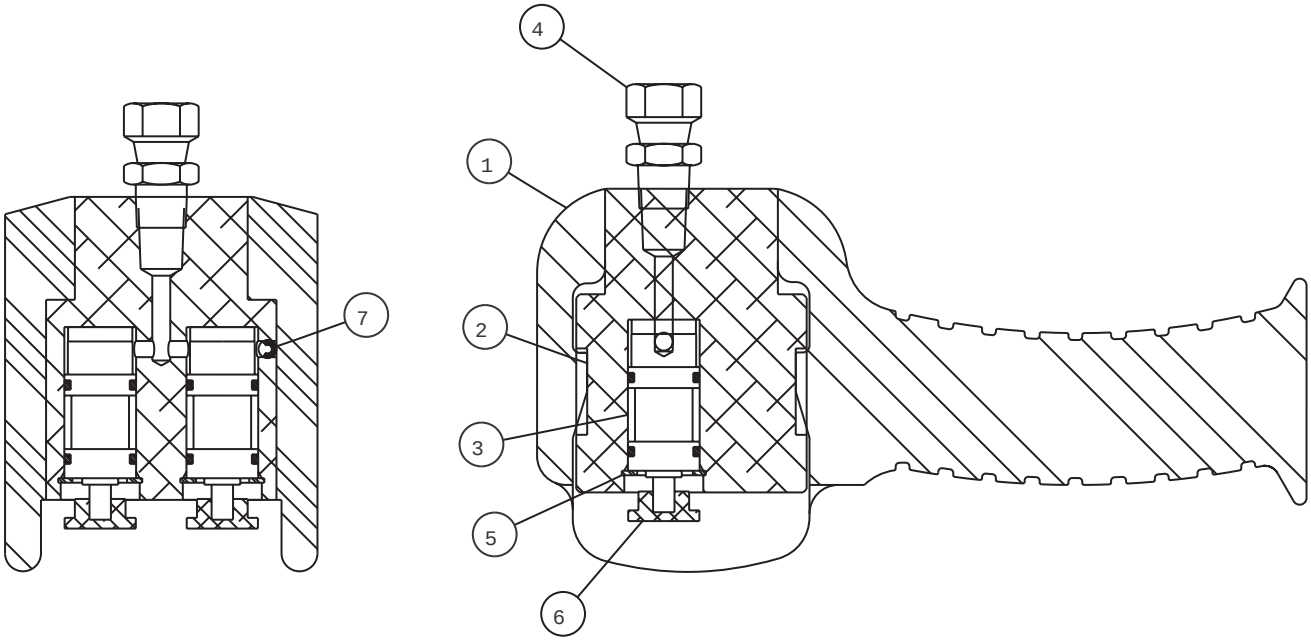
ITEM	PART NO.	DESCRIPTION	QTY
1	69083	PENDANT BODY & RELIEF	1
2	69150	JUNCTION BOX	1
3	69487	SWITCH ON MOMENTARY	1
4	69381	PENDANT CORD 20` LG	1
5	69996	PENDANT LABLE ADV	1

43022 VALVE AIR TORQUE OC



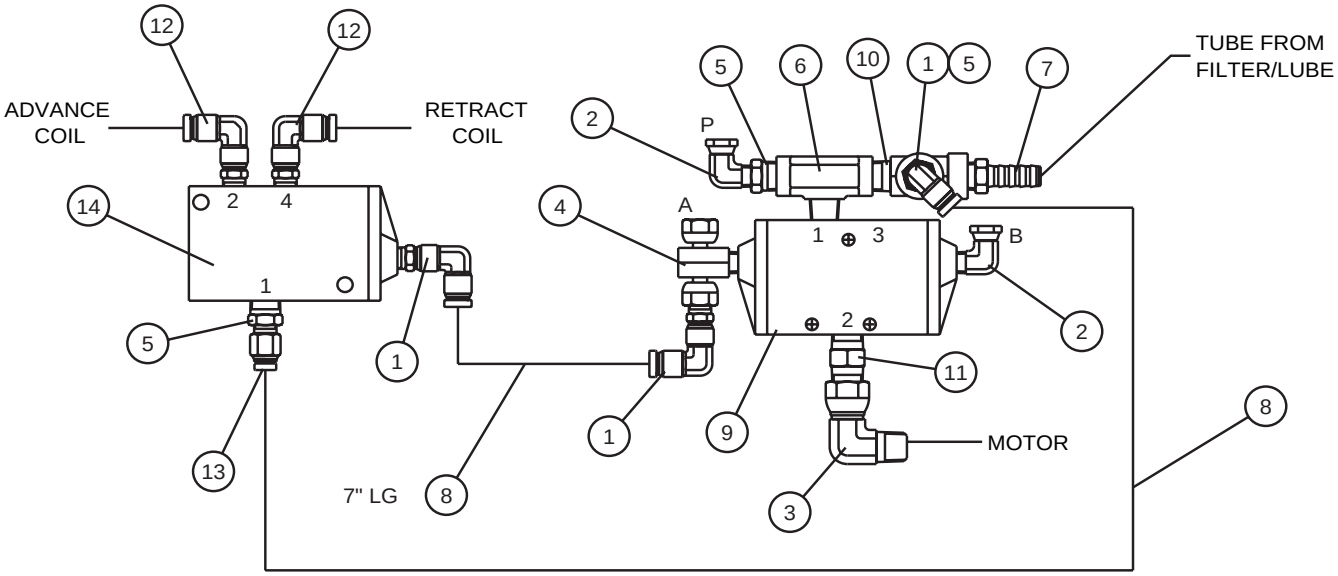
ITEM	PART NO.	DESCRIPTION	QTY
1	68725	VALVE ASSY.	1
2	41954	AIR CYL ASSY	2
3	68388	COVER	1
4	68389	GASKET	1
5	68711	SPRING	2
6	56020112	O'RING	4
7	43358	SCREW	4
8	43359	SCREW	8

41950 MOTOR PENDANT AIR ASSEMBLY



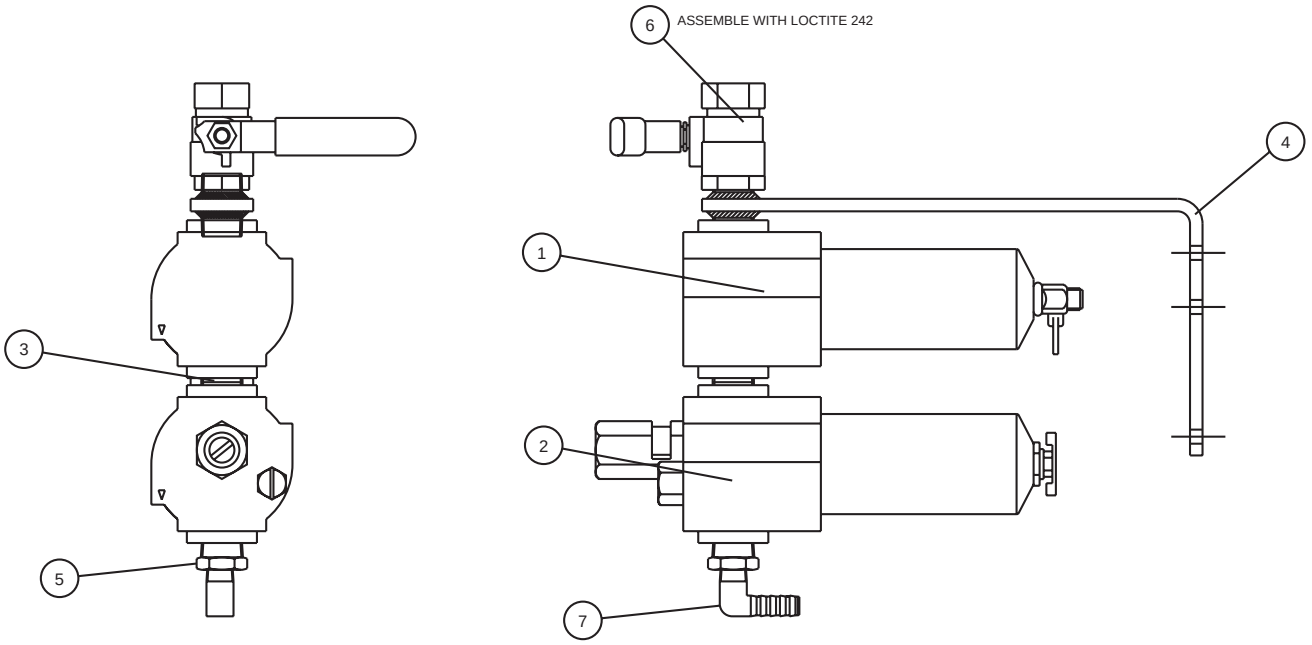
ITEM	PART NO.	DESCRIPTION	QTY
1	41968	BODY-PENDANT	1
2	41969	BLOCK-AIR PENDANT	1
3	41963	CARTRIDGE-AIR	2
4	41964	SWIVEL FITTING	3
5	68808	RETAINING RING	2
6	41970	CARTRIDGE-CAP	2
7	6069613	SAFETY VAL BALL	3

AIR VALVE ASSEMBLY



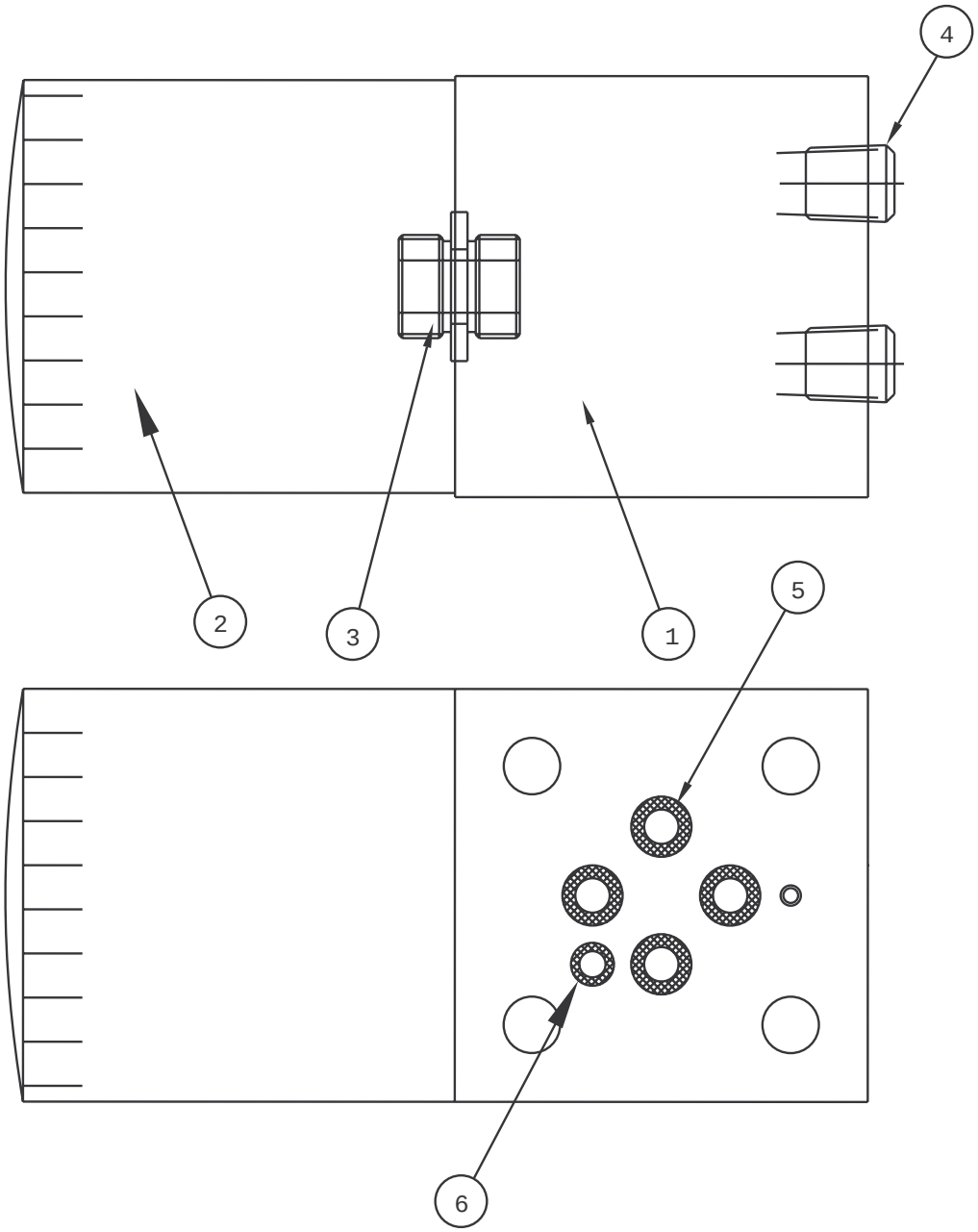
ITEM	PART NO.	DESCRIPTION	QTY
1	69362	SWIVEL NUT ELBOW	5
2	42380	SWIVEL ADP 1/8 90	2
3	86872	SWIVEL ELBOW 1/4	1
4	42968	SWIVEL TEE 1/8	1
5	42667	REDUCER	3
6	42668	BRANCH TEE	1
7	69547	HOSE BARB	1
8	69361	NYLON TUBING	2
9	43514	AIR VALVE 3W / 2POS	1
10	69852	MALE RUN TEE	1
11	4100067	NIPPLE	1
12	68794	MALE ELBOW TUBE	2
13	68797	MALE CONNECT TUBE	1
14	43515	AIR VALVE 4W / 2POS	1

68790 FILTER / LUBE ASSEMBLY



ITEM	PART NO.	DESCRIPTION	QTY
1	86241	AIR FILTER	1
2	86242	AIR LUBRICATOR	1
3	87320	PIPE NIPPLE	1
4	68791	BRACKET WELD'M	1
5	69936	REDUCER	1
6	85851	AIR VALVE	1
7	68798	HOSE BARB ELBOW	1

69470 FILTER BLOCK ASSEMBLY



ITEM	PART NO.	DESCRIPTION	QTY
1	69546	FILTER BLOCK	1
2	69670	OIL FILTER	1
3	69144	ADAPTER-FILTER	1
4	93950	PIPE PLUG 1/4	2
5	56020112	O'RING	4
6	5602008	O'RING	1